UNIVERSITY OF LONDON.

EXAMINATIONS

FOR THE DEGREE OF

BACHELOR OF MEDICINE

IN THE YEAR 1839.

LONDON:

SOLD BY RICHARD AND JOHN E. TAYLOR,

PRINTERS TO THE UNIVERSITY OF LONDON,

RED LION COURT, FLEET STREET.

1839.

FIRST EXAMINATION.

EXAMINERS.

In Anatomy and Physiology.

Mr. KIERNAN.
Dr. R. B. TODD.

In Chemistry.

Professor DANIELL.

In Botany.

Rev. Professor HENSLOW.

In Materia Medica and Pharmacy.

Mr. PEREIRA.

EXHIBITION AND MEDALS.

1839.

None awarded.

FIRST EXAMINATION.

PASS EXAMINATION.

MONDAY, July 1.—*Morning,* 10 *to* 1.

ANATOMY AND PHYSIOLOGY.

Examiners, Mr. Kiernan and Dr. R. B. Todd.

Candidates may illustrate their answers by sketching the parts they describe.

1. Describe the Clavicle and its relations to the surrounding parts, and in what respects the Clavicle of the male differs from that of the female. What are the uses of the Clavicle? in what manner are the motions of the shoulder impeded in fractures of this bone? in which fractures are they most, and in which least impeded, and which motions are principally impeded? On what anatomical arrangement does the difficulty of diagnosis, in certain fractures of this bone, depend?

2. Enumerate the different kinds of Joints, and give examples of each kind. Describe the general mode of arrangement of the ligaments and muscles, and the motions which take place in each kind of moveable joint.

3. State the attachments of the Diaphragm, the foramina by which it is perforated, the relations of those foramina to

each other, and the parts which pass through them. Mention also the exact relative position of the convex surface of the diaphragm, on the right and left sides, to the parietes of the chest.

4. Enumerate the agents employed in effecting the act of Expiration, distinguishing those which are employed in ordinary expiratory acts, and those which are called into action in the more violent efforts of expiration.

5. Commencing the dissection at the integuments of the side of the face, how would you proceed to show the course and distribution of the Internal Maxillary Artery and its branches, and the parts contained in the zygomatic fossa? Describe the steps of the dissection, mentioning the parts in the order in which they are met with, and describe the two pterygoid muscles, and their actions.

6. What changes does the air undergo in Respiration, and how may those changes be accounted for?

7. Describe the position of the Heart and its relations to the other contents, and to the parietes of the thorax.

MONDAY, July 1.—*Afternoon,* 3 *to* 6.

ANATOMY AND PHYSIOLOGY.

Examiners, Mr. Kiernan and Dr. R. B. Todd.

Candidates may illustrate their answers by sketching the parts they describe.

1. Deseribe the Crural Canal. What are the varieties in the origin and eourse of the obturator artery, and what are the oeeasional relations of this vessel to the inner portion of the superior aperture of the eanal?

2. State all the parts whieh are sueeessively brought into view in disseeting an intereostal spaee from the skin to the pleura. Give their relative positions, and deseribe the intereostal museles.

3. Deseribe the Fundus of the Bladder, and its relations to other parts, with referenee to the operation of puneturing the bladder from the reetum.

4. What are the reasons for believing that the Lymphatic Vessels are absorbents?

5. Deseribe the origin and course of the First Dorsal Nerve as far as its junetion with the braehial plexus. State the prineipal experiments whieh have been performed with the view of aseertaining the funetions of the spinal nerves, and the eonelusions derived from those experiments.

6. Enumerate the several parts of the Organ of Hearing in Man, in the order of their relative importanee. Deseribe the most important part, and state the reasons for eonsidering it essential to the perfeetion of the sense.

7. Deseribe the origin, eourse, and distribution of the Hypoglossal Nerve, and the distribution and funetions of the other nerves of the tongue.

TUESDAY, July 2.—Morning, 10 to 1.

CHEMISTRY.

By Experiment and Printed Papers.

Examiner, Professor DANIELL.

1. What is meant by a Degree of Temperature upon Fahrenheit's scale? and how does it differ from a degree upon the Centigrade scale?

2. Define and illustrate the theory of Latent Heat with reference to ice, water, and steam; and state the manner of obtaining fixed points for the graduation of thermometers.

3. Explain the phenomena of 'Single Elective Affinity' and 'Double Elective Affinity,' and illustrate them by examples.

4. Illustrate the meaning of the term 'Chemical Equivalents' by an example; and state the equivalents of the non-metallic elements upon the hydrogen scale.

5. Name the principal Hydro-acids; state their equivalent numbers upon the hydrogen scale; and explain their action upon metallic oxides.

6. Explain the process for obtaining Cyanogen; and describe its constitution and properties.

7. What is the constitution of Carbonic Acid? of Carbonic Oxide? of Oxalic Acid? Explain the action of Concentrated Sulphuric Acid upon the latter.

8. Describe the general process for Organic Analysis, and explain the principles upon which it is founded.

TUESDAY, July 2.—Afternoon, 3 to 6.

BOTANY, MATERIA MEDICA, AND PHARMACY.

STRUCTURAL AND PHYSIOLOGICAL BOTANY.

Examiner, Professor Henslow.

1. Explain the structure of Exogenous and Endogenous stems.
2. Describe fully the several parts of the Stamen.
3. How do you distinguish between Angulinerved and Curvinerved Leaves; and in which classes do they respectively predominate?
4. What are the normal characters of the Fruit of Cruciferæ and Umbelliferæ?
5. Describe the Stomata and their functions.
6. Explain the functions of Respiration in plants.
7. What are the phenomena observed during the Fertilization of the Ovule?
8. Enumerate some of the chief means by which the Dispersion of Seeds is effected.
9. What are the stimulants necessary to secure the Germination of Seeds? and what the successive steps in this process?

MATERIA MEDICA AND PHARMACY.

Examiner, Mr. PEREIRA.

1. Enumerate the officinal substanees ordinarily used as Emeties. Speeify the peeuliarities attending the operation of eaeh, and the maladies for whieh eaeh is spceially adapted.

2. To what part of the Classifieation of Cuvier does *Cantharis vesicatoria* belong? What are the effeets of this inseet? In what maladies is it used? Enumerate its offieinal preparations, with their doses.

3. State the ehemieal eharaeteristies of good Cinehona Bark. With what substanee is Iodide of Potassium frequently adulterated? How is the fraud reeognised? With what substanee is Calomel liable to be eontaminated, and how is the contaminating matter reeognised and removed?

4. Briefly deseribe the botanieal eharaeters of *Momordica Elaterium*. Mention the Natural Order to whieh this plant belongs; also in what part of the Sexual System of Linnæus it is placed. Deseribe the method of preparing Elaterium. What are the effeets of this substanee? In what maladies is it used? What is its medium dose?

5. What are the produets of the reaetion of Sulphurie Acid on Ferroeyanide of Potassium in the proeess for making *Acidum Hydrocyanicum Dilutum*, Ph. Lond.? How is the strength of diluted Hydroeyanie Aeid determined? How would you treat a case of poisoning by this acid?

6. On what ingredient do the medieinal qualities of the mineral waters of Tunbridge Wells depend? In what elasses of eomplaints do you eonsider these waters advantageous?

7. In what diseases is Electricity employed? How would you apply it?

8. What are the primary effeets of the Cold Bath? In what eases is its use admissible?

9. What are the effeets of Stryehnia? In what diseases has it been used? What are the indications and eontra-indieations for its employment? What is the medium dose of it?

THURSDAY, July 4, *at* 10.

ANATOMY AND PHYSIOLOGY.

By Vivâ Voce, and Demonstration from Preparations.

Examiners, Mr. KIERNAN and Dr. R. B. TODD.

FRIDAY, July 5, *at* 10.

CHEMISTRY, MATERIA MEDICA, AND PHARMACY.

By Vivâ Voce, and Demonstration from Specimens.

Examiners, Prof. DANIELL and Mr. PEREIRA.

EXAMINATION FOR HONOURS.

TUESDAY, July 9.—Morning and Afternoon.

ANATOMY AND PHYSIOLOGY.

Examiners, Mr. Kiernan and Dr. R. B. Todd.

No Candidate presented himself for Examination on this day.

WEDNESDAY, July 10.—Morning, 10 *to* 1.

CHEMISTRY.

Examiner, Professor Daniell.

1. Is there any, and what, difference in the law of Expansion by Heat, between water and alcohol?
2. Explain the phenomenon of Dew.
3. Explain the principal phenomena of Electrical Induction, and the construction and action of the Leyden Jar.
4. What are the principal phenomena of a simple Voltaic Circuit?

5. Deseribe the construetion of the Voltaic Battery, and explain the origin of its power.

6. What is Electrolysis? and what the principal laws by which it is governed?

7. What is Isomerism? Illustrate the subjeet by examples.

8. Describe the process for the production of Sulphurie Ether, and explain the changes whieh take place during its production.

9. What is the constitution of Urea? Explain by chemical notation the relation which it bears to cyanate of ammonia.

10. What is Oxalamide? What relation does it bear to oxalate of ammonia?

WEDNESDAY, July 10.—*Afternoon*, 3 *to* 6.

MATERIA MEDICA AND PHARMACEUTICAL CHEMISTRY.

Examiner, Mr. Pereira.

1. Deseribe the method of preparing Hydroehlorate of Morphia aecording to the London Pharmacopœia. Explain the suceessive steps of the process, and state how morphia is direeted to be extracted from the hydroehlorate. What is the primary form of the crystals of this vegetable alkali? By what chemical eharacters is morphia distinguished from narcotina, codeia, stryehnia, brucia, and quina? What is the atomic constitution of morphia?

2. What are the symptoms, for the relief of which Opium is used in inflammatory diseases; and what are the circumstances which permit its employment? For what purposes is

this remedy administered in continued fever, and what are the symptoms which forbid its use?

3. What are the botanical characters and prevailing medicinal qualities of Ranunculaceæ, Umbelliferæ, and Solaneæ? Enumerate the officinal species in each order.

4. Describe the digestive apparatus (including the mouth) of the Officinal Leech. Explain how this animal perforates the skin and draws blood. Mention in what cases leeching is to be preferred to cupping.

5. What change does Sulphate of Iron suffer when mixed with the *Decoctum Aloës compositum*? What soluble ferruginous salts are compatible with this decoction? What substances are incompatible with the *Mistura Ferri composita*?

6. Describe the method of preparing *Antimonii Potassio-tartras*, Ph. Lond.; and explain the chemical changes which occur during the process. What is the composition of this salt in the crystallized state?

7. In what inflammatory diseases, and under what circumstances, would Mercury, given so as to affect the mouth, be admissible and advisable? How would the existence of syphilis, scrofula, or local malignant disease, affect its use?

8. What are the effects, uses, and doses of *Lobelia inflata* and of *Chimaphila corymbosa*?

9. Describe in botanical language the fruit of *Conium maculatum*.

10. What Pharmaceutical Crystals have the square prism for their primary form?

CANDIDATES.

The following is a list of the Candidates who passed the First Examination.

[The names are arranged alphabetically.]

PASS EXAMINATION.

First Division.

Ayres	University College.
Cooke	Webb Street School.
Hindle	University of Edinburgh.
Lewis	University College.
Maekenzie	University College.
Mauger	Westminster Hospital School.
Quain	University College.
Smith	Birmingham School.
Taylor	University College.

Second Division.

Girdlestone	University of Edinburgh.
Hobson	University College.
Lang	Sydenham College.
Nieoll	Aldersgate School.
Purvis	St. Thomas's and Webb Street Schools.
Storrar	University College.
Tomes	King's College.

SECOND EXAMINATION.

EXAMINERS.

In Medicine.

Dr. BILLING.
Dr. TWEEDIE.

In Surgery.

Mr. BACOT.
Sir STEPHEN HAMMICK.

In Anatomy and Physiology.

Mr. KIERNAN.
Dr. R. B. TODD.

In Physiology and Comparative Anatomy.

Dr. ROGET.

In Midwifery.

Dr. LOCOCK.

In Forensic Medicine.

Dr. LOCOCK.
Professor DANIELL.
Mr. PEREIRA.

In Chemistry.

Professor DANIELL.

In Materia Medica and Pharmacy.

Mr. PEREIRA.

SCHOLARSHIP AND MEDALS.

1839.

None awarded.

SECOND EXAMINATION.

PASS EXAMINATION.

MONDAY, July 15.—*Morning,* 10 *to* 1.

PHYSIOLOGY,

Including Questions in Comparative Anatomy.

Examiner, Dr. Roget.

1. Enumerate the component parts of the Blood; specify their physical and chemical properties, and describe and explain the phenomena of the Coagulation of the Blood.

2. Describe the course of the Blood in its Circulation; state the proofs that such is its course, and give a general account of the powers by which its motion is maintained.

3. Describe the general plans of the Organs of Circulation in the four classes of Vertebrate Animals, and also in the Mollusca, with reference more especially to their different modes of Respiration, and to differences in their Temperature.

4. What effects ensue from the extirpation of the Kidneys?

5. Describe the forms, and explain the office of the Air-bladder of Fishes.

6. State the purposes which are answered by the Ganglia and the Plexuses of Nerves.

7. Describe and explain the effects of a section of the Pneumogastric Nerve.

8. Describe the characteristic forms of the Nervous System in each of the four great divisions of the animal kingdom, viz. Vertebrate, Molluscous, Articulated and Radiated Animals.

9. Describe the mode in which images of external objects are formed in the Human Eye; and also the provisions in that organ for different focal adjustments, and for correcting the spherical and chromatic aberrations.

10. Enumerate the anatomical differences between the Eye of the Ox and that of Man; and state generally the peculiarities of structure in the Eyes of Birds and of Fishes.

MONDAY, July 15.—*Afternoon,* 3 *to* 6.

CELSUS *DE RE MEDICA.*

Examiners, Dr. Billing and Dr. Tweedie.

Translate the following passages into English:

Contra gravis morbi periculum est, ubi supinus æger jacet, porrectis manibus et cruribus; ubi residere vult in ipso acuti morbi impetu, præcipueque pulmonibus laborantibus; ubi nocturna vigilia premitur, etiamsi interdiu somnus accedit: ex quo tamen pejor est, qui inter quartam horam et noctem est, quam qui matutino tempore ad quartam. Pessimum tamen est, si somnus neque noctu, neque interdiu accedit: id enim fere sine continuo dolore esse non potest. Æque vero signum malum est etiam somno ultra debitum urgeri; pejusque, quo magis sc sopor interdiu noctuque continuat.—Lib. ii. cap. 4.

Alter quoque morbus est, aliter phrenetico contrarius. In eo difficilior somnus, prompta ad omnem audaciam mens est: in hoc mareor et inexpugnabilis pæne dormiendi necessitas. Λήθαργον Græci nominant. Atque id quoque genus acutum est, et nisi succurritur, celeriter jugulat. Hos ægros quidam subinde excitare nituntur, admotis iis, per quæ sternutamenta evocantur, et iis, quæ odore fœdo movent; qualis est pix cruda, lana succida, piper, veratrum, castoreum, nectum, allium, cepa. Juxta etiam galbanum incendunt, aut pilos, aut cornu cervinum: si id non est, quodlibet aliud. Hæc enim cum comburuntur, odorem fœdum movent. Tharrias vero quidam, accessionis id malum esse dixit, levarique, cum ea decessit: itaque eos, qui subinde excitant, sine usu male habere. Interest autem, in decessione expergiscatur æger, an, cum febris non levetur, aut levata quoque ea somnus urgeat. Nam si expergiscitur, adhibere ei, ut sopito, supervacuum est; neque enim vigilando melior fit; sed per se, si melior est, vi-

gilat. Si vero continens ei somnus est, utique excitandus est; sed iis temporibus, quibus febris levissima est, ut et excernat aliquid, et sumat. Excitat autem validissime repente aqua frigida infusa. Post remissionem itaque, perunctum oleo multo corpus, tribus aut quatuor amphoris totum per caput perfundendum est. Sed hoc utemur, si æqualis ægro spiritus erit, si mollia præcordia: sin aliter hæc erunt, ea potiora, quæ supra comprehensa sunt. Et, quod ad somnum quidem pertinet, commodissima hæc ratio est. Medendi autem causa, caput radendum; deinde posca fovendum est, in qua laurus, aut ruta decocta sit: altero die imponendum castoreum, aut ruta ex aceto contrita, aut lauri baccæ, aut hedera cum rosa et aceto. Præcipueque proficit, et ad excitandum hominem, naribus admotum, et ad morbum ipsum depellendum, capiti frontive impositum sinapi. Gestatio etiam in hoc morbo prodest; maximeque opportune cibus datus, id est, in remissione, quanta maxima inveniri poterit. Aptissima autem sorbitio est, donec morbus descrescere incipiat: sic, ut si quotidie gravis accessio est, hæc quotidie detur; si alternis, post graviorem, sorbitio, post leviorem, mulsa aqua. Vinum quoque cum tempestivo cibo datum non mediocriter adjuvat. Quod si post longas febres ejusmodi torpor accessit, cetera eadem servanda sunt: ante accessionem autem, tribus quatuorve horis, castoreum, si venter adstrictus est, mixtum cum scammonia; si non est, per se ipsum cum aqua dandum est. Si præcordia mollia sunt, cibis utendum est plenioribus; si dura, in iisdem sorbitionibus subsistendum; imponendumque præcordiis, quod simul et reprimat et emolliat.—Lib. iii. cap. 20.

At cum urina super potionum modum etiam sine dolore profluens maciem et periculum facit, si tenuis est, opus est exercitatione et frictione, maximeque in sole, vel ad ignem: balneum rarum esse debet, neque longa in eo mora: cibus comprimens: vinum austerum meracum, per æstatem, frigidum, per hiemem egelidum; sed tantum, quantum minimum sit. Infima alvus quoque vel ducenda, vel lacte purganda est. —Lib. iv. cap. 20. sect. 2.

TUESDAY, July 16.—*Morning,* 10 *to* 1.

SURGERY.

Examiners, Mr. Bacot and Sir Stephen Hammick.

1. Define common acute Inflammation, its characteristic symptoms and causes.

2. State the various terminations of Inflammation, with the treatment of each respectively.

3. How do you class Wounds arising from external violence? Describe their nature, symptoms and treatment.

4. What is the process by which Union is accomplished in a simple fracture of a Cylindrical Bone?

5. Give the different dislocations of the Shoulder-Joint, their symptoms and mode of reduction.

6. What is Hydrocele—its palliative and radical treatment?

7. Enumerate the different situations and names of Herniæ, with the various conditions in which they may be found.

8. Describe the operation for Popliteal Aneurism.

TUESDAY, July 16.—*Afternoon,* 3 *to* 6.

MEDICINE.

Examiners, Dr. Billing and Dr. Tweedie.

1. Describe the general symptoms, anatomical characters, and physical signs of Pleurisy. Give an outline of the treatment.

2. What are the different forms of Scarlet Fever? Specify the symptoms which characterize each variety, and its appropriate treatment.

3. What are the principal lesions which induce Ascites? How is it distinguished from pregnancy, ovarian tumours, or tympanites?

4. What are the symptoms of Laryngitis? Describe its anatomical characters, diagnosis, and treatment.

5. Give the anatomical characters of Cerebral Hemorrhage, and the changes which subsequently take place in the coagulum and in the nervous tissue.

6. Detail the symptoms, morbid appearances, and treatment of Dysentery. Mention particularly the circumstances which determine the propriety of blood-letting, and those which contra-indicate its employment.

7. What are the symptoms of Nephralgia Calculosa? State its diagnostic signs, and the curative and prophylactic measures to be employed in the treatment.

8. Detail the measures to be adopted when an individual is seized with Cerebral Apoplexy.

WEDNESDAY, July 17.—*Morning,* 10 *to* 1.

MIDWIFERY.

Examiner, Dr. Locock.

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1. What are the signs of Pregnancy? Which are doubtful and which are decisive?
2. What are the Changes which take place in the Fœtus immediately after the first act of respiration?
3. What are the circumstances under which it may be desirable to bring on Premature Labour, and what are the various modes of effecting it?
4. What are the nature and causes of Hæmorrhage before parturition, and the modes of treating it?
5. With what may Polypus of the Uterus be confounded, and what is the diagnosis?
6. What are the signs of the Death of the Fœtus?
7. What is the order of the First Dentition?
8. What are the symptoms of Laryngismus stridulus—the causes—and the treatment?

WEDNESDAY, July 17.—*Afternoon,* 3 *to* 6.

FORENSIC MEDICINE.

Examiners, Prof. Daniell, Dr. Locock, and Mr. Pereira.

1. What are the symptoms and chemical proofs of Poisoning with Opium?
2. How are Blood-stains on metal and linen to be distinguished from other stains?
3. What are the proofs that Carbonic Acid Gas is a *positive* poison? What are the morbid appearances which it produces in the body?
4. What are the symptoms of Arsenical Poisoning? How may the presence of arsenious acid in organic mixtures be ascertained?
5. What condition of the Ovary is a test of impregnation having formerly existed, and how much is such a test to be relied on?
6. Describe the signs of recent Delivery,—those distinguishable during life—and those proved by dissection.
7. In suspected Infanticide, what are the proofs that respiration has taken place, and how much are they to be depended upon?

MONDAY, July 22.—*Morning, at* 10.

EXAMINATION IN ALL THE PRECEDING SUBJECTS.

By Vivâ Voce Interrogation.

By all the Examiners.

CANDIDATES.

The following is a list of the Candidates who passed the SECOND EXAMINATION, and consequently received the Degree of BACHELOR OF MEDICINE.

[The names are arranged alphabetically.]

PASS EXAMINATION.

First Division.

Taylor ..... University College.

Second Division.

Cooke ..... Webb Street School.
Hindle ..... University of Edinburgh.
Hobson ..... University College.
Lewis..... University College.
Mackenzie..... University College.
Mauger ..... Westminster Hospital School.
Purvis ..... St. Thomas's and Webb Street Schools.
Storrar ..... University College.

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